AMENDMENTS TO THE CLAIMS

Please replace the Claims with the amended Claims attached hereto.

Claims

[1] (Original) A method for requesting authentication from a base station in a wireless portable network system, the method comprising:

(a) transmitting a basic capability negotiation message (SBC-REQ) from a subscriber station to the base station in order to establish an authentication mode;

(b) receiving a reply message (SBC-RSP) on the basic capability negotiation message from the base station, and establishing the authentication mode; and

(c) transmitting an extensible authentication protocol (EAP)-Transfer Request message which corresponds to the established authentication mode to the base station, and requesting authentication on the subscriber station.

[2] (Original) The method of claim 1, wherein the basic capability negotiation message includes a parameter with an available authentication mode in (a).

[3] (Original) The method of claim 2, wherein the basic capability negotiation message is a message generated by including the parameter with an available authentication mode to a subscriber station basic capability negotiation - request (SBC-REQ) message which is one of message authentication code (MAC) messages of the IEEE 802.16 privacy standard protocol.

[4] (Original) The method of claim 1, wherein the authentication mode is one of an authentication mode based on the IEEE 802.16 privacy standard protocol and an authentication mode based on the standardized authentication protocol of an upper layer in (b).

[5] (Original) The method of claim 4, wherein a subscriber Authentication Request message for requesting subscriber authentication by the base station is transmitted to the base station in (c) when the authentication mode is negotiated to be the authentication mode based on the IEEE 802.16 privacy standard protocol in (b).

[6] (Original) The method of claim 5, wherein the subscriber Authentication Request message for requesting subscriber authentication by the base station includes an EAP-Transfer Information message and an Authentication Request message from among privacy key management - request (PKM-REQ) messages which are MAC protocol data of the IEEE 802.16 privacy standard protocol.

[7] (Original) The method of claim 4, wherein a subscriber Authentication Request message for requesting subscriber authentication by an authentication, authorization, and accounting (AAA) server which is connected to the base station and authenticates the subscriber is transmitted to the AAA server through the base

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station in (c) when the authentication mode is negotiated to be an authentication mode based on the standardized authentication protocol of the upper layer in (b).

[8] *(Original)* The method of claim 7, wherein the subscriber Authentication Request message for requesting the subscriber authentication by the AAA server is added to the PKM-REQ message which is MAC protocol data of the IEEE 802.16 privacy standard protocol, and subscriber authentication based on the standardized authentication protocol of the upper layer is requested to the base station.

[9] *(Currently Amended)* The method of ~~one of claims~~ claim 4 ~~to 8~~, wherein the standardized authentication protocol of the upper layer is one of an extensible authentication protocol - transport layer security (EAP-TLS) and an EAP-tunneled TLS (EAP-TTLS).

[10] *(Original)* A method for authenticating a subscriber station wirelessly connected to a base station in a wireless portable network system, comprising:

(a) transmitting to the subscriber station a reply message to which an authentication mode is negotiated according to a basic capability negotiation message (SBC-REQ) for establishing an authentication mode provided by the subscriber station;

(b) receiving a message for requesting subscriber authentication from the subscriber station and performing the authentication, or requesting subscriber authentication from an authentication, authorization, and accounting (AAA) server which is connected to the base station and authenticates the subscriber station; and

(c) transmitting a reply message for showing authentication results to the subscriber station.

[11] *(Original)* The method of claim 10, wherein the authentication mode is one of an authentication mode based on the IEEE 802.16 privacy standard protocol and an authentication mode based on the standardized authentication protocol of an upper layer in (a).

[12] *(Original)* The method of claim 11, wherein authentication on the subscriber is requested to the AAA server through the standardized authentication protocol of the upper layer in (b) when the negotiated authentication mode is an authentication mode based on the standardized authentication protocol of the upper layer in (a).

[13] *(Original)* The method of claim 12, wherein the standardized authentication protocol of the upper layer is a diameter protocol.

[14] *(Original)* The method of claim 10, wherein the reply message for showing the authentication results is an Authentication Reply message from among privacy key

management - reply messages (PKM-RSP) which are MAC protocol data of the IEEE 802.16 privacy standard protocol in (c) when the subscriber is authenticated by the base station in (b).

[15] (Original) The method of claim 10, wherein the reply message for showing the authentication results is added to a privacy key management - reply messages (PKM-RSP) which are MAC protocol data of the IEEE 802.16 privacy standard protocol, and subscriber authentication results based on the standardized authentication protocol of the upper layer are transmitted to the subscriber station in (c) when the subscriber is authenticated based on the standardized authentication protocol of the upper layer by the AAA server in (b).

[16] (Original) A method for configuring a subscriber station authentication protocol between a subscriber station and a base station in a wireless portable network system, comprising:

(a) transmitting and receiving a basic capability negotiation message (SBC-REQ) for establishing an authentication mode between the subscriber station and the base station by using an MAC message; and

(b) transmitting and receiving a subscriber authentication message according to the authentication mode established in (a) between the subscriber station and the base station by using the MAC message.

[17] (Original) The method of claim 16, wherein the basic capability negotiation message is transmitted by using SBC-REQ and SBC-RSP messages with parameters which allow establishment of authentication modes in (a).

[18] (Original) The method of claim 16, wherein the subscriber authentication message is transmitted by using PKM-REQ and PKM-RSP messages which are MAC messages of the IEEE 802.16 standard protocol or by using PKM-REQ and PKM-RSP messages to which a message for performing authentication according to the standardized protocol of the upper layer is added in (b).

[19] (Original) The method of claim 18, wherein a message transmitted from the subscriber station to the base station is a PKM-REQ/EAP-transfer request, and a message transmitted from the base station to the subscriber station is a PKM-REQ/EAT-transfer reply, when the message for performing authentication according to the standardized protocol of the upper layer has an EAP based standardized protocol of the upper layer.

[20] (Original) A subscriber station for requesting authentication from a base station in a wireless portable network system, comprising:

a station controller for requesting authentication mode establishment used to decide the authorization policy, and requesting authentication on the subscriber station according to the authentication mode negotiated with the base station;

a digital signal transmitter and receiver for modulating, demodulating, and channel-encoding signals input and output to/from the station controller; and

an analog signal transmitter and receiver for relaying transmission of analog rad io signals between the digital signal transmitter and receiver and the base station.

[21] (Original) The subscriber station of claim 20, wherein the station controller comprises:

an Authentication Request message generator for generating an authentication mode negotiation message and a subscriber Authentication Request message for requesting authentication on the subscriber station from the base station, and transmitting the messages to the base station through the digital signal transmitter and receiver;

an Authentication Reply message parser for receiving an authentication mode negotiation message and a subscriber Authentication Reply message from the base station through the digital signal transmitter and receiver, and parsing the messages; and

an Authentication Request controller for requesting authentication on the subscriber station from the base station, and controlling operations of the Authentication Request message generator and the Authentication Reply message parser in order to receive a reply from the base station and process the reply.

(Current) (Amended)

[22] The subscriber station of claim 20 or 21, wherein the established authentication mode includes an authentication mode based on the standardized authentication protocol of the upper layer.

[23] (Original) A base station for authenticating a subscriber station in a wireless portable network system, comprising:

a base station controller for establishing an authentication mode according to an Authentication Request provided by the subscriber station, and performing authentication according to the established authentication mode;

a digital signal transmitter and receiver for modulating, demodulating, and channel-encoding signals input and output to/from the base station controller; and

an analog signal transmitter and receiver for relaying transmission of analog radio signals between the digital signal transmitter and receiver and the subscriber station.

[24] (Original) The base station of claim 23, wherein the base station controller comprises:

a message parser for parsing an authentication mode negotiation message and a subscriber station authentication message provided by the subscriber station through the digital signal transmitter and receiver, and parsing an authentication protocol message of the upper layer provided by an AAA server for performing authentication based on the standardized authentication protocol of the upper layer on the subscriber station;

an Authentication Reply message generator for generating a reply message on the authentication mode negotiation message or a subscriber Authentication Request message provided by the subscriber station, and transmitting the message to the subscriber station through the digital signal transmitter and receiver;

an upper Authentication Request message generator for generating a message for requesting authentication on the subscriber station from the AAA server, and transmitting the message to the AAA server through the digital signal transmitter and receiver when the authentication mode is established to be an authentication mode based on the standardized authentication protocol of the upper layer during an authentication mode negotiation process with the subscriber station; and

an authentication controller for performing a process according to the Authentication Request provided by the subscriber station to generate a reply, and when the authentication mode is an authentication of the upper mode, requesting authentication on the subscriber station from the AAA server, and controlling the operations of the message parser, the Authentication Reply message generator, and the upper Authentication Request message generator in order to receive the reply from the AAA server and process the reply.